Grassland Complexes (31,551,627 acres or 33.53% of Montana)

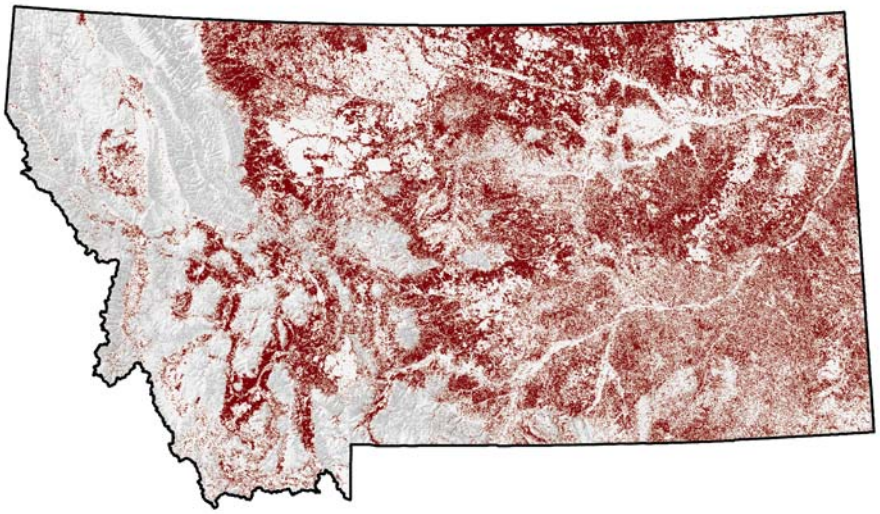

Figure 36. Distribution of Grassland Community Types

Grassland communities occur in broad western mountain valleys, high mountain meadows, and on the plains of eastern Montana. Very low to high cover grasses are characteristic of these areas, and this array of grass types is found in open lands, often interspersed among shrubs. This community type is essentially associated with more terrestrial species in greatest need of conservation than any other community type in Montana.

Grassland habitats are difficult to meaningfully differentiate using only remotely sensed data like the GAP mapping. Types based on the relative cover of grass are not ecologically based or directly related to habitat conditions. Descriptions of GAP grassland types are very broad and include some species that are not common in Montana or do not occur together. A classification and mapping system that incorporates ecological data and is associated with a recognized vegetation classification like the National Vegetation Classification System will have greater management applicability in the future and should be supported.

Three main categories of grassland complexes are found throughout Montana. Very low cover grasslands occur primarily in central and eastern Montana valleys. These grasslands range from semi-desert grasslands with total grass cover from 10 to 30 percent to grasslands dominated by short grasses and forbs that have high amounts of bare soil (20 to 60 percent cover). Very low cover grasslands have production ranges from 50 to 300 pounds per acre and are usually associated with alkaline soils and/or disturbed sites.

Low to moderate cover grasslands occur across the state in valleys and foothills, on middle to high-elevation mountain slopes on south aspects. Low to moderate cover grasslands have total grass cover from 20 to 70 percent and are

dominated by short- to medium-height grasses and forbs, with production ranges from 300 to 1,800 pounds per acre. These grasslands Include rangelands and non-irrigated pastures.

Moderate to high cover grasslands include total grass cover from 50 to 100 percent. They are dominated by medium to tall grasses in prairie areas. Moderate to high cover grasslands have production ranges from 1,000 to 7,000 pounds per acre and are usually associated with wet sites.

Essential Associated Plant Community

Arrowleaf Balsamroot *(Balsamorhiza sagittata)*
Big Bluestem *(Andropogon gerardii)*
Bluebunch Wheatgrass *(Agropyron spictatum)*
Blue grama *(Bouteloua gracilis)*
Bluestem *(Andropogon* spp.)
Carex species *(Carex* spp.)
Clubmoss *(Selaginella densa)*
Elk Sedge (*Carex gereyi*)
Green Needlegrass *(Stipa viridula)*
Hood's Phlox *(Phlox hoodii)*
Idaho Fescue *(Festuca idahoensis)*
Indian grass *(Sorghum nutans)*
Little Bluestem *(Andropogon scoparium)*
Lupine *(Lupinus* spp.)
Missouri Goldenrod *(Solidago missouriense)*
Needle-and-Thread grass *(Stipa comata)*
Prairie June grass *(Koeleria* spp.)
Prairie Sandreed *(Calamovilfa longifolia)*
Rough Fescue *(Festuca scabrella)*
Sandberg's bluegrass *(Poa sandbergii)*
Sun Sedge *(Carex heliophila)*
Switchgrass *(Panicum virgatum)*
Threadleaf Sedge *(Carex filifolia)*
Timothy *(Phleum pratensis)*
Western Wheatgrass *(Agropyron smithii)*

Associated Species of Greatest Conservation Need (Tier I Species)

There are a total of 358 terrestrial vertebrate species that are found within the grassland complexes community type, with 199 of these species being essentially associated (essentially associated species are shown in bold). All associations can be found in Table 39.

Amphibians: Northern Leopard Frog

Reptiles: Western Hog-nosed Snake, Milksnake, and **Smooth Greensnake**

Birds: Trumpeter Swan, **Greater Sage-Grouse, Columbia Sharp-tailed Grouse,** Yellow Rail, **Whooping Crane,** Piping Plover, **Mountain Plover, Long-billed Curlew,** Black Tern, **Burrowing Owl, Sedge Wren,** and **Nelson's Sharp-tailed Sparrow**

Mammals: Spotted Bat, Townsend's Big-eared Bat, Pallid Bat, Black-tailed Prairie Dog, White-tailed Prairie Dog, Great Basin Pocket Mouse, **Meadow Jumping Mouse,** Grizzly Bear, **Black-footed Ferret,** and **American Bison**

Conservation Concerns & Strategies

Conservation Concerns	Conservation Strategies
Spread of noxious weeds and non-native plants, especially knapweed, leafy spurge, and cheatgrass	Prevent the introduction and spread of noxious weeds on existing tracts of palouse prairie
	Maintain the appropriate native species composition using resource management strategies
	Restore areas infested with the highly flammable, invasive cheatgrass, returning them to native grasses and forbs
	Create a stable native seed source for grass restoration
Impacts from oil, gas, geothermal, and coal extraction and development	Monitor leasing and development decisions and regulations applying to geophysical exploration
	Work with corporations, land owners and other agencies to reduce impacts of exploration
	Education and research on fossil fuel development and its impacts on natural landscape
	Conduct research to determine impacts from petroleum exploration and extraction activities
Impacts from un-managed recreational use	Work with the public and other agencies to establish sustainable recreation management practices, including designations of lands open, limited, or closed to off-road vehicle use

Fragmentation and habitat loss due to agricultural and subdivision development	Promote incentives and education for private landowners to protect natural habitat
	Support strategic conservation easements by conservation organizations and public agencies to provide large blocks of short grass types in a diverse mosaic of habitats
	Identify and prioritize key wildlife linkage areas, and work with other state and federal agencies, conservation groups, and landowners to restore wildlife connectivity
	Support state/federal tax incentives that discourage habitat fragmentation
	Promote further development of county ordinances that help guide future residential and commercial development
	Maintain vertical and horizontal soil structure on existing public tracts by developing appropriate resource management strategies
Range or forest management practices	Support government and private conservation activities that encourage and support sustainable land management practices (example; rest and rotation schedules)
Loss of natural fire disturbance	Work with public and private activities to re-establish natural fire regime
Lack of sufficient habitat cover data layers	Support cooperative efforts to develop up to date, comprehensive habitat cover layers

References

Casey, D. 2000. Partners in Flight Bird Conservation Plan Montana Version 1.0. Montana Partners in Flight. Kalispell, MT.

Conservation Management of America's Public Lands: An Assessment and Recommendations for Progress 25 Years after FLPMA. 2001. National Wildlife Federation and the Natural Resources Defense Council.

Ostlie, W. R., R. E. Schneider, J. M. Aldrich, T. M. Faust, R. L. B. McKim, and S. J. Chaplin. 1997. The status of biodiversity in the Great Plains. The Nature Conservancy, Arlington, VA. 326 pp + XII.

Statewide Habitat Plan. 1994. Implementation of Fish, Wildlife & Parks Commission. Habitat Montana Policy.